THE VETERINARY RECORD

A Weekly Journal for the Profession.

Edited by WILLIAM HUNTING, F.R.C.V.S.

No. 886. JULY 1, 1905 VOL. XVIII

THE NATIONAL VETERINARY ASSOCIATION.

The Annual Meeting of this Association is to be held earlier than usual this year. Late in August has been the date for some years but owing to the engagements of many of the members it has been decided to meet at Buxton on the 25th of July.

Our advertisement columns show that a very interesting and important series of papers have been promised and it is expected that the meeting will be a large one. Certain it is that Mr. Coe, the Local Secretary, and his committee have left no stone unturned to ensure a successful gathering. Buxton itself presents many attractions, but the neighbourhood is second to none in England in the crowd of objects it presents for the instruction and amusement of visitors. Pretty scenery and historic houses and places cover the whole county of Derbyshire, and those members who decide to combine the interests of the Association with their annual holiday will not be disappointed.

Practitioners who have not yet become members of the "National" should not allow this opportunity of joining the Association to slip. They should at once apply to be enrolled by the General Secretary. The annual subscription is only half-a-guinea, so there can be no excuse from a financial point of view, and the return for the money should attract every member of the profession resident within a hundred miles of Buxton.

For some reason or other the papers promised this year are late in reaching the printers, and the Secretary desires us to ask gentlemen who have undertaken this important duty to send in at once their papers so that printed copies may reach the members as early as possible.

To those members who have not engaged rooms at Buxton yet we offer the advice to delay no longer, as the town is full in July. Hotels are many, but they are likely to be full at the time the Association meets.

Those who bring their wives and families will find any amount of accommodation in the town—first-class apartments are always obtainable. Mr. Howes, of Buxton, who is Chairman of the Entertainment Committee, is one of those untiring and zealous members whose greatest pleasure is to help others. Anyone in doubt should write him for advice.

HUMAN DEATHS FROM GLANDERS.

The following is a good illustration of the statement we made last week that any question asked in the House of Commons about glanders is invariably answered by evasion or untruth.

Mr. CHANNING asked the President of the Local Government Board whether he was aware that inquests recently held on a stableman in the Star Omnibus Company's stables and on Elizabeth Cousins, the wife of a carman, in Pimlico. and a large number of fatal cases in London hospitals in the past two years had shown the increasing risk of glanders being communicated to human beings; and whether he would, in consultation with the Board of Agriculture, take steps by legislation or by administrative orders to deal with this danger.

Mr. GERALD BALFOUR answered: I have seen reports of the inquests referred to, but I am not aware that there has been any large number of fatal cases of glanders in London hospitals in the last two years. The number of human deaths in London from this cause appears to have been four in 1903, and two in 1904. I am advised that the risk of the disease being communicated from horses to man is not great, and that it does not seem to be increasing. But I think it may be desirable that when an inspector of the local authority, under the Diseases of Animals Acts, receives notice of the occurrence of a case of glanders in a horse he should forthwith give information of the receipt of the notice to the medical officer of the district in which the horse is, or was, and I will communicate with my right honourable friend the President of the Board of Agriculture and Fisheries on the subject.

Mr. Channing had got his facts right but not the explanation. There is no "increasing risk of glanders being communicated to human beings." There always has been a risk, and there always has been a loss of human life. There are a greater number of deaths due to glanders registered these last few years, but only because they have been diagnosed.

The returns of death among human beings are slightly increased because a bacteriologist is now attached to most of the large hospitals, and the cause of death is arrived at either on the day of death or a day or two after. Not a single case of glanders has been diagnosed by private practitioners. Every case returned has been from a hospital, and even these would have passed unnoticed and undiagnosed had it not been for the bacteriologist.

We say this with no wish to reflect upon the medical profession. The fact is the majority of cases of acute glanders in man are undiagnosable. By the time any lesion likely to raise suspicion occurs, death is imminent, and without a bacteriological test or a post-mortem examination the disease is not recognised. Two articles have recently appeared in *The Lancet*. From one, criticising a report on the disease in the Phillipines by Dr. Wherry, we take the following:—"The two cases in human subjects reported by Dr. Wherry illustrate in a marked degree the difficulties of diagnosis which were experienced in the case recently received into St. George's Hospital. Here it may be remembered the case was originally believed to be one of pneumonia. One of Dr. Wherry's cases was only suspected after death to be a case of glanders; it had previously been regarded as one of pyæmia or of acute rheumatism, or possibly small-pox; while in the second case the diagnosis was not established until just before death."

Since the case referred to at St. George's, another victim has died in the same hospital—a woman who was supposed to be suffering from bronchitis. The last case of human infection in Glasgow was diagnosed two days after death by the pathologist to the city. We remember a case at Fulham four years ago which was treated as rheumatic fever, and only suspected on the day of death. A case at St. George's Union Infirmary was diagnosed as recurrent influenza. At Westminster Hospital last year a fatal case was seen, but diagnosis was made only on the day of death. Earlier in the year this notice appeared in the evening papers "Septicæmia of unknown origin was Tuesday's verdict on Daniel O'Callaghan, farrier in the London and North-Western stables. Coroner Westcott announced to-day that death had been proved to be due to glanders."

Surely every case of glanders in man does not go to a hospital. What is the diagnosis in private practice? Is it too much to believe that instead of four cases per year being the true number of victims there are fifty?

"Careful observation makes a skilful practitioner but his skill dies with him. By recording his observations he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of Pathological Science."

"KIDNEY DROPPER."

Chestnut mare, eight years, 14·2, cob made, good condition, under observation for two years, during which time she had changed hands at least 20 times, prices ranging from £5 to £20. Animal will go about five or six miles at a trot without showing anything wrong, but when it gets this far, or less sometimes, it lies down; recently it does not lie down if allowed to stand and not asked to walk or trot. The muscles of the hind extremity get very rigid, almost like tetanus, passes off in about one hour. The animal never refuses to eat, and will even eat and drink. When lying paralysed I proposed this mare two years ago to a Veterinary School; could have got her then for £6. I would like to have the pathology of this condition described. This disease is well known to "screw dealers" they call the owner of it a *kidney dropper*, it may probably be due to an aneurism.

The symptoms are different to azoturia in that there is no change in urine and that the animal recovers rapidly, and also that this condition is chronic. I am keeping in touch with the animal, and if ever I have the chance of making a post-mortem examination I will let you know.

J. G.

ECLAMPSIA OF THE BITCH.

A small fox terrier bitch, ten months old, was brought into the surgery with the history that she had suddenly "come over queer." Her owner had noticed after coming in from a short walk that she appeared to be staggering about and weak in the hind quarters. On the assumption that she had been poisoned he gave her an emetic. Finding she did not improve he brought her to us. We gathered the foregoing and also that she was suckling three healthy puppies and that this was the 10th day since parturition.

When the bitch was brought to us she was unable to stand, fell down and lay with her feet stiffly stretched out as though dead. There were tremblings of the limbs and body and clonic spasms of the cervical and temporal muscles. The tongue was lolling at times, at others there were convulsive movements of the jaws, the teeth chattering rapidly. The mucous membranes were very reddened, the pulse fast, and the heart beats violent. There was neither unconsciousness nor insensibility—rather the contrary, but an expression of fear was conveyed by the general appearance.

We gave her Liq. chloral hydras. ♏ xx. in a little water and sent her home to have a hot bath, then perfect quiet and warmth.

A few hours later she was brought back, her breathing had become exceedingly quick, so that it was almost impossible to exactly time the respirations, the mouth was opened widely, covered with foam, and the tongue protruding very much. It looked an almost hopeless case, but the spasms had apparently disappeared. This time we gave her a small dose of chlorodyne and sent her home again.

The owner called the next morning with the bitch. He told us that she had dosed off in his arms going home, had been quiet all night, and when we saw her she had to all appearances entirely recovered.

Rowland Hodgkins, M.R.C.V.S.

Rayleigh, Essex.

ABSTRACTS FROM FOREIGN JOURNALS.

Transplantable Lympho Sarcoma of the Dog.—By Anton Stichter, M.D.

Tumour implantation into the abdominal cavity was undertaken in 22 dogs. Contrary to the effect observed in the subcutaneous tissue, viz., chiefly solitary nodes and occasionally two or three superposed nodes, here in the abdominal cavity a multiple swelling always arose. This remained limited to the large omentum or else the whole parietal and visceral folds of the periotoneum were involved in the process. The omental nodes were as large as a hen's egg and one's fist and in one case as large as a cocoa-nut. Relatively to the time of the development of the peritoneal sarcoma the following was observed. In five cases of post-mortem before the second month there were small, isolated tumours of the size of a millet seed to a pea, and in one case of the size of a chestnut; the tumours were always established in the omentum. Of 10 cases slaughtered in the third month after inoculation, seven showed a wide-spread universal sarcomatous affection of the peritoneum. Of seven cases from the fourth to sixth month, three showed a negative character—complete resorption, although showing palpable nodes in the 3rd month; two showed a regressive character, and only two an increasing growth. This shows that in a few cases of peritoneal sarcoma continuing longer than three months without being fatal, the body acquires sufficient protective power to partly or completely render the tumours innocuous. I shall return to this later on.

Before leaving these cases of intra-peritoneal inflammation I might here notice one special point. In all these cases the great omentum was prominently affected and in some cases almost exclusively involved. The word "disposition" was given to this. Heger's experiments clear up this disposition.

Heger, by a series of experiments on dogs, proved that the large omentum had the power of taking up suitable foreign bodies in the free space of the abbominal cavity. He injected Indian ink at different places into the abdominal cavity; in the course of 24 hours black stripes permeated the large omentum, whilst the parietal and visceral layer of the peritoneum showed only a few blackish points. After incorporation of 2 grammes of iron filings,

the whole mass after 90 hours was found again in the omental pouch. A piece of copper of 7 grammes weight was found after 39 hours wholly enveloped by the omentum. Also colour solutions and bacteria emulsions were taken up in this way by the great omentum. G.M.

(*To be continued.*)

Arsenious Acid as a Specific for Warty Growths.

Pecus considers that arsenious acid is a specific for neoplasms due to micrococcus neoformans, and that the best method of using the drug is to combine it with cantharides in the proportions of Ac. arsen. and Tr. canth. *aa.* gr. 1., Tereb. Venet., Ol. oliv., and Cer. flav. *aa.* gr. 6. When the paste is applied to the root of the growth either with or without ligature, there is a steady atrophy of the growth, and it may be applied to the most delicate organs such as the eye or ear.—*Jour. de Méd. Vét.*

Mastitis and Milk Poisoning.

At Christiana 16 persons of three families were taken ill with loss of appetite, diarrhœa, fever, after taking milk from a certain dairy. Jacobsen on investigation found that 32 cows of the herd had mastitis limited to one quarter of the udder, and the milkers had not reported it. Milk from the affected gland was full of streptococci, its use was forbidden, and the illness among the people ceased at once.—*Zeitschrift f. F. M. Hyg.*

A Rational Treatment of Redwater.

Redwater or pyroplasmosis in cattle is characterised chiefly by the extreme anæmia, with the alteration in the spleen, liver and medulla of the bones, *i.e.* the organs specially connected with the elaboration of hæmatin ; so that the tissues are not properly oxidised, through inability to retain the hæmoglobin.

Evers, aware that a preventive inoculation of 5 c.c. of defibrinated blood gives immunity, hit upon the idea of restoring the deficient hæmoglobin by subcutaneous injection. The dose is 5 grm. of hæmoglobin dissolved in 25 c.c. of salt solution and increasing to 15 - 20 grms.

The absorption of the solution is slow, taking from 10 - 12 hours. With this treatment, and keeping them free from ticks 41 out of 43 bad cases made a good recovery.—*Rev. Gén. de Méd. Vét.*

F. E. P.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

The summer meeting was held at the Angel Hotel, Peterborough, when the following members amongst other gentlemen were present :—Mr. T. A. Rudkin, Grantham, President; Messrs. Blackhurst, Preston ; F. L. Gooch, Stamford; J. W. Gresswell, G. Lockwood, Peterborough; A. Lennox, Crowland; T. W. Turner, Sleaford, Hon. Sec. and Treas.; and others.

The Secretary stated that he had received several letters and telegrams from members who found it impossible to attend the meeting, and expressed the opinion that a good many more of the members might attend if they only felt inclined. He felt sure that none of the profession were so busy that they could not spare a part of a day, and he knew that if they made up their minds to go anywhere else they would find time to get away. He thought this ought to apply very much to the Society's meetings where something of an instructive and helpful description always took place. Several other members also expressed the same opinion, and the President asked if something could not be done to get members to attend, for he felt sure that a much larger number of members might put in an appearance, if they only would make an effort.

The Secretary reported the receipt from the Victoria Benevolent Association for their subscription for the year.

The attendance of some of the members at the Public Health Congress, which the Lincolnshire was supporting, and at the Sanitary Congress, was also discussed, the opinion being unanimous that both the Congresses were well worthy of a visit, and some of the members stated that they had become private members and hoped to attend in their private capacity.

Mr. Gooch reported that he had failed to be elected on the previous day as a member of the Council. He did not know the numbers, but all the old members and Mr. Stockman were elected to fill the vacancy. He believed that the unsuccessfnl candidates were all very close together. Although he allowed himself to be nominated, he was never very sanguine of being elected. The other Societies who had been asked to assist the Lincolnshire Society, ran candidates of their own, so that he only secured a very few votes from them. Under existing circumstances he considered it was almost impossible to get a new candidate on to the Council at all, for it seemed to him that London practically elected the whole of the members. At the meeting on the previous day he had asked the President if he might make a suggestion or two with regard to future elections, but the President had ruled that was not the place and time to do so, but the proper course for him would be to bring these suggestions before his own Association, and if adopted for them to be sent up as recommendations from the local Association. He would submit his suggestions before the meeting at a later stage.

Mr. G. Lockwood, M.R.C.V.S., of Peterborough, and Mr. A. D. Lalor, M.R.C.V.S., of Ruskington, were unanimously elected members of the Association.

A letter of condolence and sympathy was ordered to be written to Mr. B. Freer, of Uppingham, who is suffering from a severe and protracted illness, several of the members remarking how painful and continuous Mr. Freer's sickness had been.

A letter was received from the Lancashire Society stating that it considered that the time had arrived when the profession should consider the advisability of sending a veterinary surgeon to Parliament to watch over their interests.

The President did not see what one man could do for them in Parliament. He thought a much better plan would be for each veterinary surgeon to make suggestions to his own Member of Parliament if anything came before the House that was of any importance to them. He thought their own members would always be glad to listen to anything they had to say, and he knew they would be anxious and ready to do all they could for them. But one veterinary surgeon in the House would not be of the slightest use, even if they were able to get one elected.

Mr. Gresswell would like something to be done so that they might have some opinion expressed as to the Bills that came before Parliament. They seemed as if they were leaving all these things to their Council, and they never heard that anything was done. He believed they had a Parliamentary Committee to look after their

interests, but this committee elected its own Chairman, and they often did not know who he was. He would like the Parliamentary Committee and its Chairman to be known to all the members of the profession, and then if there were any important matters before Parliament, which there often were, they would know who to correspond with so as to bring their opinions before the proper committee.

The meeting did not think anything could be gained by attempting to elect a veterinary surgeon as a Member of Parliament, and the letter from the Lancashire Association was ordered to be laid on the table.

The PRESIDENT asked if any member could suggest anything to increase the success of the Association. Personally he was very anxious that it should be made to go better than it was, and he was willing to try any suggestion. He knew that their members were scattered about the county and it was often difficult for them to get to the places of meeting, but still he thought they ought to have much better attendances than they had. They had altered their time of meeting, but this had not been as successful as they had hoped. Did the members think that the meetings were held in the wrong months? Would July be a better month for their summer meetings or would another town be more suitable?

Mr. GOOCH did not think July would be as suitable as June, for the different Congresses were held in that month, and members, if possible, were then taking their holidays.

Mr. GRESSWELL said they were unlucky with their meeting at Peterboro' on the present occasion, because the Yeomanry were up at camp, and this kept some of their friends away, and another respected member was assisting in celebrating a festivity of a family nature. He did not think they could have a better place than Peterboro' for their summer meeting, for their best meetings were held there.

Mr. GOOCH was of opinion that the fault lay with the members and not with the time or place of meetings. They had tried other towns, such as Grimsby, South Boston, Skegness, etc., but they had not been any better. They had taken the meetings to the very doors of some of their members and then they had not attended.

Mr. PARKHURST asked if it would be any better if the Secretary wrote personally to each member asking them to attend.

The SECRETARY replied that he sent a circular to each member notifying the date and place of each meeting, and then as a reminder posted a post card to each two days before the meeting.

The CHAIRMAN asked if it would be advisable to hold the summer meeting at Peterboro' during the Agricultural Show week, but this was considered impracticable, for the Association would be unable to find accommodation and it was not thought likely that the members would feel inclined to combine business and pleasure.

Mr. GOOCH said he remembered them once holding a good meeting at Skegness, when they had seventy members present. They held a very good meeting and then spent some time on the sands together before they returned to dinner.

Mr. GRESSWELL said it had been suggested that Huntingdon should be tried. but it was stated that a meeting had been held there and had been a very poor one.

The SECRETARY complained that the members might attend if they only made up their minds to do so. He knew they could find time to attend a cricket match or anything of that kind if they wished, and he thought a little life ought to be thrown into the meetings of the Association. Several of the members failed to ever put in an attendance at the meetings or even to send a post card in reply to the circulars.

Mr. GOOCH proposed that the October meeting be held Lincoln as usual, although they had worse meetings there than anywhere, notwithstanding it was in the centre of the County.

Mr. GRESSWELL asked how it would be to hold the annual meeting at Peterboro', the summer meeting at Skegness, and the October meeting at Grantham.

After further discussion it was resolved to hold the October meeting at Lincoln as usual, and in the meantime the members were asked to see if they could suggest anything to secure a greater interest in the Association amongst its members.

PRESIDENTIAL ADDRESS.

By Mr. T. A. RUDKIN, M.R.C.V.S.

Gentlemen, it is usual on these occasion, in the first place, to thank the members of the Association for the election of their leader; this, I do most cordially, and feel honoured that you have given me that seat again in so short a space of time. Personally, it has been of great benefit to me to attend these meetings, both socially and professionally.

It is also usual on these occasions for your President to criticise the profession generally. I will commence with our own Society. In Lincolnshire, we have some 66 registered veterinary surgeons, and only some 30 of these gentlemen have honoured us by becoming members, surely something is wrong, and what is the remedy. Is there that good feeling and professional cordiality that ought to exist amongst us. One often hears the remark "Do you know so and so? I think it is a bit shabby he poaches upon my practice." Now, that ought not to be. Man is free in England; go where he may, if he charges a fee accordingly. On the other hand, if his charges are not remunerative, then he becomes a poacher.

Enormous strides have been made by our profession of late years, and the rising generation have greater facilities for becoming masters of their various subjects than we had in our student days, and it is only by attending such societies as ours, hearing the various views and opinions, that we can keep ourselves abreast with the times.

Scientifically, the field of bacteriology is of such an enormous acreage that it is impossible for man to conceive its breadth. Our most eminent men have been only able to spot a tree here and there on the border of this great forest.

I feel confident that a youth would greatly benefit himself, and in all cases his profession, by spending two or three years on a stock farm, and making himself familiar with the natural habits of our domesticated animals. What is more painful than to see a young practitioner unable to put a halter in a proper manner, or to catch or tie up a beast; or perhaps exhibit his ignorance of the various foods and liquids and the proper quantities required for animals in health and disease.

Our thanks are due to the Council of the R.C.V.S., for the steps they have taken with regard to advertising, and I am sure I am voicing the wish of every member present that they will press their efforts further.

The PRESIDENT having been thanked for his address,

Mr. GOOCH gave notice of certain suggestions that he would make at the next meeting, to be then considered, and if approved to be sent up to the Council, dealing with the election of the members of the Council, and also as to the conduct of the annual meeting of the profession. Mr. Gooch suggested that the attendance of the members of the Council for the whole of their four years should be printed on the annual report, that the country should be divided into sections, and that members should be allotted to each section *in ratio* to the number of the voters in each section.

It was ordered that Mr. Gooch's suggestions should be put on the agenda for consideration at the next meeting to be held in October.

GASTRIC SYMPTOMS IN COWS—DIETETIC?

By CHAS. BLACKHURST, M.R.C.V.S., Broughton.

Gentlemen,—My old friend, your President, has honoured me by asking me to bring before you some matter or other which may be of interest, particularly to those practitioners who have to do with cattle.

I do not for a moment presume to give you instruction or to pose as an authority, but rather otherwise. I beg to hear your views on a most interesting outbreak of what I may term a mysterious disease which has every now and again made its appearance during the last five years in a very large number of milch cows. This disease occurs amongst the cattle in three farms all occupied by the same tenant. The stock consists of about 200 milch cows, from 80 to 100 fat cattle, 700 pigs, and 300 sheep. When first my attention was drawn to the ill-health of these cattle I found several milch cows showing the following symptoms: paddling of the hind feet, staggering gait, bowels slightly constipated, spasm of the gluteal muscles, contraction of the muscles over the eyelids, greatly dilated pupil, the eyes partially protruding from the orbit, highly injected sclerotic coat, and tail tucked between the hind legs, the pulse fast and leaden, or doughy to the touch, temperature high, in some cases registering 108 degrees. As the case proceeded the cow would fall as if been pole-axed, the head thrown right back as in strychnine poisoning; respiration ceased during the spasm, the cow rolled over on her side and began to move her legs as in the act of galloping, but instead of the limbs being moved as in normal galloping, all the four legs were moved together, first backwards and then forwards. After a partial recovery of this seizure which was generally of about 20 minutes duration, there was an aimless champing of the jaws, and grinding of the teeth, blowing out of the cheeks, profuse salivation which continued for hours. As these symptoms gradually subsided the animal became anxious for food and water, but having no desire to rise from a comfortable position. As soon as rumination was established the symptoms again made their appearance in a more aggravated form, which in many cases warranted immediate slaughter, the carcases setting nicely and apparently good food. On enquiry I found the feeding was chopped hay, 1½ pounds of treacle, six pounds Indian meal, three pounds cotton cake, two pounds bran, damped with hot water and all mixed together, per head per day. No long hay was given. This food was mixed in bulk, and allowed to stand for twelve and twenty-four hours before being served out to the beasts. (Of course the food was always in an advanced state of fermentation. The drinking water was always heated during the winter months). In summer time the cows were turned into the pastures and chopped grass was substituted for chopped hay but not in so great a bulk.

I advised that all the provender should be stopped, long hay given, oatmeal and linseed meal, gruel alternately to drink, and Indian meal and bran for provend, and all the milch cattle to be given one ounce dose of hypo-sulphite of soda per day for a week. As soon as the sick animals were restored to health, and the disease had disappeared, I naturally saw no more of them, but after a lapse of a month or two I was again called in to see another cow suffering in the same manner, and from the same disease. On enquiry was informed that after I had discharged my patients as cured, within a very short time the farm bailiff had commenced the old and erroneous feeding.

On the 14th day of May, 1904, I was summoned to the same farm and found two cows suffering from the old complaint and so ill that immediate slaughter was necessary. I then proceeded to examine the whole stock and found some half-dozen of the cows sickening; these were put under treatment and recovered. I could not prevail upon the bailiff to suspend the usual provender. On the following afternoon several others were showing signs, and by the 16th some 30 cows were under treatment. I then saw the owner, I told him that if the provender was not stopped and fresh food provided, in all probabilities the whole of the stock would be seized with the sickness. However, he did not agree, and samples of the food were sent for analysis to a high authority, who was unable to discover any poisonous matter in the food or stomachs.

By the 17th the whole of the milch cows, without one single exception, were showing signs of disease, and were all put under treatment. The fat heifers—stall fed—which were having the same food, with the exception of cotton cake, which were substituted by linseed cake, were in perfect health, and showed no signs of sickness.

The pigs were having the same Indian meal and bran and were all in perfect health with the exception of two sows which presented the same symptoms as the cows, and on post-mortem I found the same appearances as in the cattle, and most mysteriously the stomach was gorged with chopped hay, straw, and cotton cake. On enquiry from the pigman, I learned that one of his assistants "who was daft" was in the habit of carrying food in his pocket from the cows to feed his favourite pigs.

I then commenced to carry out experimental feeding, and found that each animal which was fed upon fermented chopped hay, cotton cake and treacle died showing all the symptoms.

The post-mortem appearances varied to a considerable degree, for in some of the cases the animals were killed, so that the carcases would be fit for food, and it was only in those cases where the disease ran its full course and ended in death that the p.m.'s showed uniformity. In the severe cases, the changes found after death pointed to gastro-intestinal irritation with profound blood changes—as shown by extensive sub-mucous and sub-serous hæmorrhages. In the fourth compartment of the stomach its mucous membranes were much congested and petechial hæmorrhages were frequently found. Hæmorrhages into the walls of the small intestines, and in one case extensive bleeding into the lumen of the bowel. There were sub-serous hæmorrhages about the heart, both on its surface and in its interior. The hæmorrhages varied in size and extent, being at times small, and then occurring in the fat on the auricular ventricular groove; at other times occurring all over the heart. In one case there was profuse hæmorrhage from the surface of both pleuræ. Blood was dark and imperfectly coagulated, no micro-organisms were discovered in it, either by examination of stained films or by culture. Brain, its coverings were greatly congested, and in some cases the hæmorrhages had extended into the ventricles.

In the cases which were not allowed to finish naturally, the changes were of the same nature, but had not run to the same extent. Here the chief p.m. changes were found in the stomach and intestines. I may state that the cotton cake was bought in large quantities, and packed in an ill-ventilated building. The disease always made its appearance when the last few tons of the cake were being used. We have all heard of the scourge in other countries known as Septicæmia Hæmorrhagica, but I can hardly call this an outbreak of that kind, though the symptoms point to it. If it should be so it is imperative that our Board of Agriculture should wake up and take cognisance of this—and of many other diseases which are not scheduled.

Now, gentlemen, I think you will acknowledge that this is a more or less mysterious disease. We have in the one hand improper feeding, and in the other, a seeming septic infection of the patient. I ask you, is it

not a feasible and probable fact that the impropriety of the feeding gave rise to the susceptibility of septi-septicæmia?

We all know that animals—including man—if badly nurtured are much more prone to contract disease than those that are in robust health. Yet on most careful microscopic examination we found no organisms in the tissues, nor did we obtain any by cultivation in gelatine or serum, etc.

My humble opinion is that there was such a condition of decomposition in the stomachs that ptomaines were generated which, being absorbed, caused there great blood lesions and these neurotic symptoms. The medical treatment consisted of Hypo-sulphite of soda and diffusible stimulants. What do you think?

DISCUSSION.

The PRESIDENT heartily thanked Mr. Blackhurst for his very interesting paper, but he had not yet come across a case of a similar nature.

Mr. GOOCH thought there was no doubt but that the animals referred to by the essayist suffered from poisoning caused by the fermentation of their food set up in some way by the cotton cake. He had had somewhat similar cases some time back. The animals were having tares given to them, but on the third day the tares ran out so the herdsman went for some second cut clover, of which a large wagon load was standing in the yard, and there were thirteen cases of stomach trouble in one day, which was due to the heating of the clover. These stomach troubles would set up the brain troubles, and so bring about the staggering and circling motion of the animals, during which they were very likely to injure themselves if they were in a confined place. He had attended cases on a farm where one horse had showed very serious signs of brain trouble, and during the interval of the paroysms he had had it removed from its small stable to a large box near at hand. Another animal, a pony, was taken to a friend's premises, but it presented the same symptoms. They would go round and round the box for about twenty times and then go down. This was due to the reflex action on the brain from the gastric nerve. In his opinion where the mischief arises is in the stomach, and then it spreads over the system.

Mr. GRESSWELL had not seen many cases in cattle, but he had come across it in cart horses. About eleven months ago he was fetched to attend to five horses, and he found them reeling about the crewyard not able to stand, they had good appetites, but they appeared to be like animals that were drunk. If you moved them they would stagger back again. The owner thought it was the effect of some mallein which had been administered to them some time before, but from an analysis made in London it was proved that no injury had been caused by the mallein. The trouble had no doubt commenced in the stomach and then passed on to the brain. Fermentation was sometimes set up in the stomach by chopped or cooked food, and he should recommend hypo-sulphite of soda, which he would give for a day or two until the fermentation ceased. When called to one case he had nothing but physic with him, for he was busy at the annual show, but he managed to get a good dose down, and when he visited the horse after the show was over he found it was much better, and it was soon all right again. These troubles were brought on by injudicious feeding, and there were not so many cases in the country as in large towns.

Mr. LOCKWOOD asked what kind of cotton cake Mr. Blackhurst's patients were fed upon.

The PRESIDENT said Mr. Blackhurst's case was one of those mysteries which crop up in the profession every now and again, but to his mind it appeared a good deal like ptomaine poisoning. It was no doubt set up by some sort of fermentation in the stomach, and Mr. Blackhurst was to be thanked for the case of interesting study he had introduced.

The SECRETARY said he had never come across cases similar to those explained by Mr. Blackhurst, but he thanked him very much for his interesting and instructive paper.

Mr. GOOCH gave particulars of another recent case in which death had resulted with apparently all the symptoms of anthrax. The owner had suspicions of a certain feeding cake, and samples of the cake and the contents of the stomachs were sent to London for analysis, but no trace of anything could be found in either. They had been fed on cut oat straw and mangolds pulped, but although four lots were sent up for analysis nothing was discovered.

Mr. Gooch also explained the use of chloride of lime for testing the presence of the castor bean in feeding cake.

Mr. BLACKHURST further remarked that there was tympanitis noticeable in the animals he had attended. The first thing you saw was that the tail was tucked between the cow's legs and she was trembling all over. This trembling would go on for some six hours, then she would die. The cake used was decorticated cotton cake which was bought in large quantities, some three or four hundred tons at a time This was stacked up and used as wanted, a large quantity of the feeding stuffs—for the owner was in a very large way—being mixed at a time. When the stock was getting low, and the door first opened in the morning, the smell was of a most offensive character, and cows were affected which stood on the premises with their faces towards where the cake was stacked.

On the motion of Mr. Gresswell, a vote of thanks was carried to the able essayist.

The members afterwards dined together.

LIVERPOOL UNIVERSITY VETERINARY MEDICAL SOCIETY.

A quarterly meeting was held in the Thompson-Yates-Johnston Laboratory on Thursday, May 18th. There were present about forty members and friends. In the absence of the President, Prof. Boyce, F.R.S., Dr. Annett was voted to the chair on the motion of Mr. Wolstenholme.

After the minutes of the last meeting were confirmed, several letters of apology for absence were read.

A letter was then read from the Secretary of the Lancashire Veterinary Medical Association *re* Parliamentary representation for the profession, and after discussion it was proposed by Professor W. O. Williams, seconded by Mr. Faulkner, and carried "That the Committee of this Society meet the Committee of the Lancashire Society to further discuss the matter."

ELECTIONS AND NOMINATIONS.

The following gentlemen were unanimously elected members of the Society: Prof. Sherrington, F.R.S., Messrs. Burndred, Faulkner, Hewitson, and Taylor.

Mr. R. SHEPHERD, of Middlewich, was nominated for membership.

SOME INSECT PARASITES OF ANIMALS.

By Mr. NEWSTEAD, A.L.S., Lecturer in Entomology and Parasitology, University of Liverpool.

The following is a brief synopsis of a very interesting lecture.

Some of the insects dealt with were strictly parasitic, while others were not so. The life-histories and habits of all the more important flies which are most commonly injurious to farm stock in Britain, and also the biting

and suctorial lice were described. In dealing with the "fly in sheep" or "sheep maggots" he pointed out that at least three species of "meat flies" were responsible; but the species most commonly met with, and the one most generally distributed throughout the British Isles, was the small green fly (*Lucilia sericata*). In Scotland this was the only fly which had so far been bred from maggots taken from infected sheep. The female lays about 500 eggs in little clusters well down in the fleece. In size they are about one-sixteenth of an inch in length and of a pale yellowish or ochreous colour. In about twenty-four hours after they are laid they develope into small active maggots, cylindrical in form, with the anterior extremity (head) attenuated and provided with a pair of curved black spine-like jaws. The maggots are practically legless and move about among the wool by contracting and expanding the body. In hot weather they remain in this stage for about a fortnight, but their development is often prolonged by the unfavourable conditions of the weather. When full grown the maggots work their way out of the wool and fall to the ground and change into the chrysalis stage, encasing themselves in a hard brown shell. From this the perfect fly emerges in about fourteen days, the period being regulated by the conditions of the weather and the season of the year.

The species has also been recorded as injurious in Holland and France; it occurs also in North America, but has apparently done no damage to sheep in that country. The cause of attraction was collectively the peculiar odour of sheep, especially noticeable in warm damp weather, the oily nature of the wool, and especially the wool which was clogged with excreta. In Gloucestershire he had found the maggots of the common house fly (*Musca domestica*) equally destructive to sheep as *lucilia sericata*. This he had proved by taking the maggots from infected sheep and rearing them on the putrid carcase of a bird. The third species of blow-fly concerned was the large "blue bottle" (*Calliphora erythrocephala*). This species was often suspected, but had only been reared from sheep maggots on a few occasions.

In dealing with the ox warble or bot fly (*Hypoderma bovis*), two theories, he said, had been propounded with regard to the early stages of the life-cycle and the movements of the embryo bots (larvæ). Most authorities agree that the eggs are deposited on the backs of cattle and are attached to the hair and the skin by means of the long ovipositor with which the female fly is provided. The generally accepted theory has been that the young bot (which is 1·25 mm. in length) on escaping from the egg bores it way through the hide, either in an oblique direction or in a straight course, ultimately causing a cutaneous swelling or tumour, from which the bot ultimately escapes, and falls to the ground where pupation takes place and the fly is matured. Dr. Cooper Curtice, has, however, found young bots (larvæ) in the œsophageal walls, one under the pleura near the eleventh rib, in the subcutaneous tissues of the back, and in subcutaneous tumours which opened by an orifice upon the external skin. Henrichsen in 1888 found larvæ which he referred to *hypoderma bovis* in the spinal canals of ten out of twenty-five head of cattle examined. The presence of the young larvæ in the positions already stated indicates that exceptionally if not normally either the eggs or the newly hatched larvæ are licked by the cattle from the backs; and that they make their way into the œsophageal walls, and from thence through the back in the neighbourhood of eleventh rib, to the skin.

Life-histories of the following insects were also given: Horse bot (*Gastrophilus equi*); Sheep nasal fly (*Œstrus ovis*) Sheep ked (*Malophagus ovinus*) together with some reference to other pupiparous insects; and examples of both groups of lice (biting and suctorial). Part of the lecture was also devoted to the natural enemies of the various insects. The lecturer claimed that bats of various species, and birds, especially the warblers, played a very important part in destroying this (diptera) as he had proved by post-mortem examinations.[1] He had also quite a large percentage of sheep maggots were infected by the larva of a minute chalcidid fly; and some larger members belonging to the same order stored their cells with "flies" as food for their young.

The lecture was fully illustrated with lantern pictures, and specimens of the more interesting pests kindly lent by the School of Tropical Medicine.

The following gentlemen took part in the discussion which followed:—Dr. H. E. Annett, Prof. Williams, Messrs. James Summer, F Garnett, and Wolstenholme.

Votes of thanks to Mr. Newstead and the Chairman concluded the meeting.

Annual Dinner.

In the evening the annual dinner was held at the Adelphi Hotel. A fair number of members and friends sat down.

After the usual loyal toasts, the President, Prof. Boyce, in giving the toast of the Veterinary Profession, gave a *résumé* of the year's work of the Society and congratulated the members upon the unexpected developments which had occurred during the year. The first important point was the very large number of new members who had been enrolled and that the Society was now at the end of its first year of existence an extremely strong one. Another fact was the good fellowship which existed between this Society and those of Lancashire, Yorkshire, and North Wales. Co-operation of such nature would inevitably make for the advancement and strengthening of the Veterinary Profession in the districts mentioned. A most gratifying feature in connection with the Society was the great interest taken in the meetings as shown by the high percentage of attendances. Practical demonstrations had been given which clearly showed that close relationship which existed between veterinary and human medicine. A very large number of reports upon specimens sent by members of the Society had been issued, and the library of current veterinary and medical literature was now one of the most complete in the country. A very large number of specimens had been added to the museum; indeed, it was only with difficulty that the numerous specimens sent in could be effectively dealt with. The number was over 2,000. It was with great pleasure that he could announce that they would have in future the assistanee of Mr. Newstead, the distinguished economic zoologist, to arrange and classify the very large collection of biting insects and intestinal parasites. The Professor then referred to the strength the Society gained by the foundation of the School of Veterinary Medicine which had had a most satisfactory commencement. Motors might displace horses, but the Army, the Colonies, Agriculture, and the sanitary administration of the country would require an increasing number of veterinary men. No effort should be spared to make veterinary training as complete as possible, and the closer the teaching was united to those bodies—the Universities—which had been charged with the higher education of the country the better. It was the duty of the University now that they had large grants from the Governn ent and the Municipal and County Authorities to help the profession in every way, for no form of higher education could exist without extensive endowment.

Mr. J. B. Wolstenholme: Mr. President and Gentlemen, I thank you for the honour you have done me in coupling my name with the toast of the veterinary profession, at this, the first annual dinner of the Liverpool

[1] *Insect Life*, Vol ii. p. 207., U.S. Dept. Agric. Div. Entomology.

University Veterinary Medical Society. I cannot but think that this meeting marks with emphasis the progress our profession has made, and the dawn of a new era of usefulness and advancement.

Really the period is not long since the oldest of us entered the profession, yet in the interval the period of study has been doubled, *i.e.*, from two years to four, and the standard of the preliminary examination has been raised in proportion.

In those days there were two licensing bodies, viz., the Highland Agricultural Society, and the Royal College of Veterinary Surgeons. With a view to uniformity, and to facilitate the raising of the standard of professional education, the former society relinquished its right to grant diplomas. After this followed the Veterinary Surgeons' Act, which protected the qualified man by prohibiting the use of his title by others, and enabled the public to discriminate between him and the empiric. Succeeding came a period of steady advancement in professional knowledge and skill, to foster which, and especially to promote post-graduate study, the Fellowship degree was instituted. About this time also the value of our particular training began to be recognised by municipal authorities, and the appointment of veterinary surgeons to aid in the preservation of public health was inaugurated. This necessary service has gone on extending year by year, certainly not to the extent nor with the rapidity we had hoped, but in such a manner that the profession has demanded that special extra training be provided, and that a hall mark in the form of a veterinary diploma of Public Health be granted to those who pass the necessary tests. The profession has acted in this manner because it considers that the work of an officer of health is so special, that the education of, and for the purposes of the general practitioner needed such an extension ; and further that it would supply a means whereby municipal bodies could select those who would be most useful to them, and in so doing reflect credit on the profession.

Mr. President, I have been particularly impressed with the cheerful and hopeful tone of your remarks as to the future of our profession, for if the mechanician is to some extent supplanting the horseman, I think that there is ample evidence that at least the veterinary surgeon may find departments new and broad enough for his best labour and highest skill. Apart from Public Health work at home, to which I have alluded ; that which you have said, Sir, of the need of skilled veterinary surgeons in our Colonies and Dependencies ought to demand the most careful consideration. This subject naturally leads to the inter-dependency of the veterinary and human surgeon. It demonstrates the fact that the art and science of medicine is one and indivisible, there is not one of man, and another of the lower animals. The same is equally true of pathology and Physiology, and it would appear that scientific advance in medicine can only be made in the future, by an intimate knowledge of the diseases of animals, in the widest sense of that word, coupled with a like knowledge of the diseases of our own species. To this end surgeons will have to learn more of the diseases of animals, and veterinary surgeons more of the diseases of our own species, for it is only by utilising fully the knowledge and skill of both that advance will be made. Indeed, I do not consider myself to be a vain dreamer, in feeling sure that the day is coming when the veterinary surgeon will have his place alike in the training and in the examination of students of human medicine in the departments of pathology and comparative medicine.

At the present time our profession is sorely in need of encouragement in its more scientific aspects ; our ranks are constantly being filled with well educated young men—not a few with brothers in the sister profession—well equipped to advance the bounds of knowledge by original research, and to compare notes with continental workers, but the opportunities and conveniences for doing so are very limited ; and the rewards in the form of employment as specialists, teachers, and examiners are very few. In connection with this latter aspect, a desire has arisen amongst us for closer union with the universities of the country, and for the institution of degrees specially distinguishing comparative medicine. As the one entrusted with this toast, I would tender to Prof. Boyce our sincere thanks for the sympathy and help he has rendered our profession, in its aspiration to advance ; and to this, the Liverpool University, for having invited and welcomed us to its portals. To any one with a knowledge of the personality of our President, and the aims and capacity of the Institution, it would not be difficult to prophesy, as I remarked in opening, that a new era of usefulness and advancement has dawned on the veterinary profession. Gentlemen, I thank you.

Mr. W. J. Fletcher : Mr. Chairman and gentlemen,—The toast of "The Liverpool University and its Veterinary School" is the one I have the pleasure of proposing. I regret I cannot tell you a great deal more than you already know of the many sciences and works this University has taken under its wing, and the amount of learning gone forth from its several departments. This has already been recognised by the public and the Government. I think I am safe in saying that the good work done by this University has been recognised when I remind you of the proof of this that exists in those magnificent buildings, and the several handsome subscriptions it has received, and the Government grants it is continually receiving. I am sure this is a matter for the City of Liverpool and the Council of the University to be congratulated upon. I will now speak of its new branch, the Veterinary School. Of course it has only just commenced and has not yet had time to prove whether or not it will be a great success, but I feel sure from the excellent laboratories, class rooms, accommodation generally, and the exceedingly well qualified staff of teachers attached to it, that it also must be a matter of congratulation to Liverpool and its University. I am sorry that Prof. Williams is not here to-night, because I noticed he said in *The Veterinary Record* in one of his speeches that it had been at a sacrifice to him of many good friends to leave Edinburgh to come to Liverpool, but would like to assure him I feel sure that any sacrifice he may have made should soon be forgotten by the friends he will make and the mutual benefits that should accrue to him and to the Liverpool Veterinary School.

Gentlemen, I ask you to drink to the toast of the University and its Veterinary School, and couple with it the name of Dr. Annett and Mr. Stafford Jackson.

Dr. Annett pointed out that the incorporation of the veterinary students into the University was now complete and working successfully, and he urged the necessity of a closer relationship between veterinary surgeons in practice and the University. The means at present to hand to effect this is the University Veterinary Medical Society, and members should regard the Society as the only means to that end at their immediate convenience. The Society, in addition, was in a position, in virtue of its relation to the University, of indicating the direction in which the courses of study for veterinary students should be best urged and emphasised in order to turn out practical veterinary surgeons.

Mr. Stafford Jackson also replied in a very humourous speech.

Mr. Share-Jones in proposing the health of the President, said that he—the proposer—came to Liverpool some months ago in mortal dread of Professor Boyce, but he pulled himself together deciding to take on anything at his own weight, but when he saw the

Professor he found that he was nearer seven stone than nine, and yet he was in still greater dread of him. It was the determination characteristic of the man which commanded respectful awe. That characteristic had led to the foundation of a veterinary school in a British University. It was not very complimentary to those concerned to recount the failures of the last 20 years or so in this direction. In past attempts there had usually been a veterinary school anxious to attach itself to a University (or a College of University rank), whilst the latter had been favourable to such attachment, but something was lacking in every attempt and the result was failure. That something reminded him of what logicians call the occasion of a phenomenon—that sole indispensible antecedent without which the phenomenon will not occur, notwithstanding the presence of numberless other favourable antecedents. The phenomenon in this case was University veterinary education, and the long lacking occasion had turned up in the person of Professor Boyce. What the President had done for veterinary education it was impossible to estimate. The speaker was afraid that in the past they in the veterinary profession had been too guilty of the fallacy of looking upon the term education being synonymous with the acquisition of knowledge—a fallacy the errors and dangers of which Pestallozzi, John Locke, Rousseau, and later, Herbert Spencer, together with other educational reformers had for the last century or two been endeavouring to convince us of. In addition to acquiring knowledge, true education implied the broadening of the pupil's mind in such a manner as to make him a useful citizen among his fellow men, and it was generally conceded that two very important factors in bringing about such an end were environment, and the frequent association with representatives of various walks of life. These latter influences had to a great extent been denied us hitherto, but now that the portals of the University had been opened to us we had an equal opportunity with the other professions of obtaining this true education. Even though the percentage of passes at examinations should be no higher than elsewhere (which in itself is a pernicious method of judging education) there is no doubt but that pupils leaving a University would be better educated in the broader but real acceptation ion of the term, and not only our profession but the community at large would benefit by the hand of welcome which had been extended to us by the University of Liverpool.

It has been of undoubted personal benefit to some of us to come to Liverpool—he admitted that it had been to himself—and he had been puzzled to know what personal benefit could possibly accrue to Prof. Boyce—what motive he could have had for so energetically propagating this movement. The more the speaker enquired into this, the more was he convinced that it had been of no personal advantage to the President himself, who was in the fortunate position of being absolutely independent, but what he had done for veterinary education he was now doing for other branches, and in almost every new movement in Liverpool for the extension of University education he was the prime mover. In fact he might aptly be called the Chamberlain of the Liverpool University, and is well worthy of a permanent place amongst modern educational reformers.

The speaker asked those present to show that they of the veterinary profession were not ungrateful for the efforts Professor Boyce had made on their behalf by drinking to his health with that enthusiasm which the occasion demanded.

The toast was received with musical honours, Professor Boyce briefly responded, and a most pleasant gathering was broken up.

J. T. SHARE-JONES, *Hon. Sec.*

THE CENTRAL VETERINARY MEDICAL SOCIETY.

An ordinary monthly meeting was held at 10, Red Lion Square, W.C., on Thursday June 1st, 1905, at 7 p.m. Mr. E. Lionel Stroud, President, in the chair.

There were present, Messrs. A. L. Butters, Fred G. Samson, Guy Sutton, Ed. A. Batt, A. Neish, C. E. Wells, J. Willett, W. Perryman, L. Savournin, F. O. L. Walpole, A. R. Routledge, R. A. Philp, R. Porch, P. W. D. Smith, W. Hunting, W. Roger Clarke, Ralph Bennett, William Urquhart, C. W. W. Brown, Prof. Pritchard, Hugh A. MacCormack, hon. sec., and as visitors, Messrs. C. W. Arkley, W. K. Townson, E. Brown, and H. W. Townson.

The minutes of the last meeting were taken as read.

The President announced that, arising out of the minutes, there were two items which came before the Council a fortnight previously. One was a recommendation from the Society to the Council, proposed by Mr. Mulvey, seconded by Mr. Perryman, that the name of any gentleman who had been proposed and seconded, but not elected a Fellow of the Society should not appear in the minutes, and that a bye-law be passed to that effect.

The PRESIDENT said that the Council had given the matter very careful consideration, and had come to the conclusion that it was desirable to publish both the names of elected and rejected candidates.

Mr. HUNTING regarded it as a shocking decision for the Council to come to; it was against every precedent and usage, and in bad taste. He would take particular notice that they were not published in his journal.

The PRESIDENT, in reply to questions, said the subject would come up again at the next annual meeting, in the Report. In cases where a new bye-law was made it had to be confirmed at the annual meeting. He read Rule 33, stipulating that the transactions shall be printed at such times and in such manner as the Council shall direct, and Rule 42, that "All proposals to enact, alter, or repeal Rules shall be given in writing to the President, signed by ten Fellows, on which he shall summon within ten days a special general meeting to consider the proposed alterations, but no rule or alteration shall come into force until confirmed by the next annual general meeting, at which not less than ten Fellows must be present." The resolution of the Council just referred to would come up for discussion at the annual meeting.

He also explained that Mr. Butters gave notice to the Council to consider Rule 9, dealing with the method of electing Fellows of the Society, and after some discussion it was carried that a proper ballot box be procured and used at all future elections: also that Rule 9 be read by the Chairman just prior to every such election, in order that Fellows might understand that if they abstained from voting, such abstention would tell against the candidate.

Mr. HUNTING thought it would require more than the alteration and the reading of a rule.

The PRESIDENT said one could not do more than bring the matter before the notice of the members at each election.

MORBID SPECIMENS.

NAVICULAR LESIONS.

Mr. ROUTLEDGE showed some specimens of navicular disease, which he thought would prove of interest. The first was a pair of bones from a roan mare, under constant observation on account of botriomycosis of the abdominal muscles. Having suffered from the condition for three years she was then killed as incurable. There were two deep pits on the posterior surface of one, and one in the other. The mare was never lame; she always

pointed, and used to go a little stilty, like a cat on hot bricks, for about a quarter of a mile—then it passed off. The complaint has never interfered with her working.

He exhibited also the off navicular bone of a bay mare. Median neurectomy was performed, she worked regularly for 4½ years, and then fell lame from a ruptured tendon. She cocked the toe in the air, and the fetlock sank slightly towards the ground. At the post-mortem examination the perforans tendon was found almost completely ruptured and frayed out. The navicular bone showed roughness of the tendinous surface, and large exostoses of the upper edge, especially towards the outer wing.

Another specimen was a portion of the near forefoot of a bay mare, on which median neurectomy was performed in April, 1904. She went to work, but fell lame at intervals, therefore a piece of the ulnar nerve was excised in July. The mare continued to work until May 26th, 1905, when she trotted slightly lame, the toe cocking, and the fetlock sinking sometimes almost to the ground. Post-mortem showed a fracture of the navicular bone and partial rupture of the perforans tendon. Roughening of the tendinous surface of the navicular bone.

The point he specially wished to bring out was, that he did not think there was any method by which the extent of the disease could be gauged by the degree of lameness present. He had shown a bone with extensive navicular disease, yet the horse was able to work all the time. In another, median neurectomy enabled it to work 4½ years. Yet with only slight navicular disease a horse might be so lame as to require the median and ulnar, or median and external plantar resected to enable it to work soundly. It was his practice to try median neurectomy first. Ten to fifteen per cent. of the cases continued lame after that and required attention to the ulnar or external plantar. He would be glad to hear the experiences of others in similar cases.

Prof. PRITCHARD said he would be glad to hear why the condition was regarded as navicular disease. His opinion was that there was no navicular disease present in the specimen to which the name was applied. The other specimens were almost unique, for they showed, what he had always thought, that the ulceration commenced in the centre of the bone.

Mr. BUTTERS asked whether there were any symptoms pointing to the condition before the knuckling occurred. The bones did not present the same carious condition which was usually present in navicular disease, where the whole bone looked like a decayed tooth. That was a common post-mortem appearance in an animal which had had navicular disease for some time. The unique point seemed to be that the animal had suffered so little from lameness. He would have thought there was a good deal of lameness. It showed how careful one should be in giving an opinion on the post-mortem appearances of bones, as to whether the animal suffered much pain or not.

Mr. PORCH asked whether it would be possible to have navicular disease without caries. He believed there was exostosis on the navicular bone exhibited. Would not that be a form of navicular disease which had not gone on to caries? Might not exostosis occur instead of caries?

Mr. ROUTLEDGE, in reply, said he certainly regarded the specimen as one of navicular disease. If he had not he would not have brought it forward as such. He would like to hear what Professor Pritchard thought of it. He would be pleased to submit the bones in question to Professor M'Fadyean, or anybody else, for an opinion.

Prof. PRITCHARD, in further remarks, said he was much obliged for the cross-examination. His view was that navicular disease was caries involving the navicular bone, but in the specimen exhibited he did not see a sign of caries, though no one would deny the presence of disease there. Of course he had not made a section of the bone, and was judging it by naked eye appearances. It all turned upon what the term navicular disease really meant.

Mr. PERRYMAN asked whether Mr. Routledge noticed the condition of the pedal bone. Evidently there was exostosis of the pedal bone, and it would be interesting to hear whether there was any history of injury, such as by a nail, in the region of the navicular.

Mr. ROUTLEDGE, in further reply, said that, as far as he was aware, the pedal bone was healthy. The mare was in the owner's possession six years, and he had no history except that five years ago she began to go lame, and she was treated for intermittent lameness for six months. He thought there had been no accident.

COINS SWALLOWED BY A DOG

Prof. PRITCHARD said members would call to mind that some time back Prof. Walley brought before the meeting some observations on "Only a Pin," and noticed some circumstances in connection with animals swallowing various foreign bodies, which were found in the stomach, and sometimes in the heart.

On one occasion, at the Metropolitan Meat Market, he (Prof. Pritchard) was presented with a pair of scissors, a key, and a thimble, all of which had been taken out of the stomach of an ox. Such happenings were not infrequent. It had also happened to him to find foreign materials in the stomachs of dogs, causing symptoms which were probably well known among veterinary surgeons. A collie dog of his own had been for some time affected with vomiting and diarrhœa, and after a time he vomited a piece of flint, although he had never seen the dog run after a stone. The dog lived and was well for twelve months afterwards, and then again became similarly affected. In spite of everything which could be done—except operation, against which there was a reason—he died, and in his stomach was found the foreign body exhibited. He had seen a bradawl with a handle seven inches long, which had been passed by a pony, and the animal survived it. He was sent down into the country to see a horse which had been losing condition considerably, and had been seen by other veterinary surgeons. After about an hour's examination he came to the conclusion that he was about as well informed as the others. But on coming out of the stable he happened to pass his hand over the horse's back when something pricked his finger. On looking carefully he found an unfinished needle, which he pulled out, and then saw several more. He concluded that the horse had been maliciously dealt with, and advised the owner to have him destroyed. After death he found quite a number of unfinished needles in the animal, and about 400 fish-hooks in the stomach and intestines. Of course the fish-hooks, owing to their barbed points, could not travel as the needles did. It was afterwards proved that the articles had been maliciously given. A friend of his had a dog which was very fat, so fat that he was advised to feed it on flies and let him catch them himself. The dog suddenly began to lose condition, and became so thin that people about the house expressed great surprise at the change. He had the dog at his house in order to try to save its life, but it died. Post-mortem, the series of copper coins he exhibited were found.

The PRESIDENT remarked that it was marvellous what animals would pick up and retain, and even seem to thrive on foreign bodies. He remembered a dog which used to swallow twenty or thirty pebbles one after another—it was at the seaside—and vomit them half an hour afterwards, and then repeat the performance. The pennies shown by Prof. Pritchard seemed to have got very thin, and it would be interesting to hear how long the dog had been ailing.

Mr. SAMSON asked whether there were children about the house, and whether the dog had been in the habit of fetching a bun or biscuit for a penny. He knew dogs which would do that. It was very rare for a dog to swallow such things as those exhibited, but a cow would swallow almost anything. He had made a post-mortem on a cow which suffered from acute indigestion for nearly three weeks. He found in the stomach a portion of a child's petticoat, which had been missed off the clothes line. A dog could swallow the bone of an ordinary mutton chop; he had known a collie do it. No doubt the œsophagus could be distended enormously.

Mr. WALPOLE asked whether Professor Pritchard knew in what way way the needles and fishhooks of which he had spoken were administered to the horse. Also, how long would it take needles to travel from the digestive track to the muscular system of the back, in which they were found.

Mr. PORCH said he remembered one case which illustrated what dogs would swallow. A friend had a collie pup, which someone accidentally jammed the door against, and on handling him afterwards something hard was found between the last two ribs, and it turned out to be a wooden meat skewer. It was about six inches long and half-an-inch in circumference. The pup was never off its appetite. The wound was dressed, and in a few days it was difficult to find the site of the injury.

Prof. PRITCHARD, in reply, said the coins found in the stomach were probably there six months. He believed the dog was in the habit of receiving coppers for biscuits. It was strange how the dog's œsophagus could deal with the materials; he could understand the animal swallowing a rounded long object, but not coins, which had sharp edges. He would not, in future, believe anything was beyond a dog's capacity to swallow. In regard to the needles getting from the stomach into the muscular system of the horse, he remembered a housemaid getting a needle in her knee, and two months later it came out at her elbow. The interesting point about the horse was that the needles travelled and the fishhooks did not. Not long ago a gentleman brought his dog and said it had swallowed a billiard ball. He felt the dog over but could not detect any lump, and asked the owner to leave the dog for a time. He had intended to give an emetic, but about 15 minutes later an urgent message came to say that the billiard ball had been found.

ELECTION OF FELLOWS.

Mr. WILLIAM URQUHART, M.R.C.V.S., London, and Mr. GEORGE ELMES, F.R.C.V.S., St. Albans, were unanimously elected Fellows of the Society.

"SPLINT."

Address by Prof. PRITCHARD, F.C.S., M.R.C.V.S.

Mr. President and Gentlemen,—I daresay the first thing in your minds is to wonder why I should have chosen such a subject. But I had a very straight hint that I should bring something forward which everyone knew something about. When the Secretary said we do not want scientific subjects he forgot I was not well up in scientific subjects; therefore that did not annoy me. I have chosen "splint" because everybody in the room knows something of it. However, it may happen that I shall be reminding you of some matters in connection with splints which probably you have not absolutely forgotten, but may for a time have lost sight of.

What is a splint? There are various ways of answering that question. Many will say it is an enlargement on the inside of the horse's leg. Some will tell you that the leg is not enlarged at all, that it is simply a transformation of structure between the small metacarpal bone and the larger one. Others will say it is simply periostitis, which leads to enlargements afterwards. These are all reasonable solutions of what splint is.

The next question to my mind is, whether it occurs in the hind limbs or in the fore limbs most frequently. In reply to that everyone in the room will probably say the fore limbs are more frequently affected than the hind ones. I should agree with that certainly, yet that it frequently occurs in the hind limbs I do not think any can deny. Now, why should it occur in the fore limbs more than the hind? I will try to answer that in this way, but I will leave a lot of arguments open for you. It more frequently occurs in the fore limbs, I think, because the weight of the body is conveyed by the fore limbs, while the hind limbs are those which propel.

Then follows the next question: Why should it occur on the inner surface of the limb more frequently than on the outer? There is something to think about there. Of course the general answer would be because the inner side of the fore limb is more under the centre of gravity. Some, thinking of the anatomy and structure of the fore limb, will tell you that one of the bones of the knee is absolntely supported by the innermost splint bone. To that I give an emphatic denial; it is not. But that is a theory. It more frequently occurs to the inner surface of the limb than to the outer, there is no question, but I do not think it is due to that. I think it is more due to the fact that the inner surface of the limb is more under the centre of gravity. This brings us to the causes. I must deal with the matter shortly, because the time is getting late. Splint arises, no doubt, from concussion in a large majority of cases, and as a consequence of the inner side of the limb being more under the centre of gravity, it is submitted to a greater amount of concussion than is the outer side.

That we have splint arising from other causes there cannot be a doubt, and frequently to the inner surface of the limb, which are not due to concussion. The horse striking it while in action will, and frequently does, give rise to the formation of splint on the inner surface of the limb. That it happens to the outer surface of the limb there cannot be any question; and then in the majority of instances I am of opinion that it is due to injury from external violence. It happens to the hind limbs, as I have said, and in the majority of cases it is due to injury then. It may be on the outer surface of the leg, or on the inner. But I am not going to overlook one frequent cause of splint, and that is hereditary predisposition. If you breed from horses that have splint or bony enlargements of the knee of this description you will usually find that the progeny are affected with this malady, splint. We may have splint as a consequence of neighbouring inflammation. An animal may become affected with splint from an inflamed condition of the leg, which probably he was not predisposed to hereditarily. We may have the condition as the result of rheumatism. Generalising, I think those are the principal causes which give rise to this malady.

Now, is it a cause of unsoundness? This is a rather important point, which I want you to speak about. Is a horse with splint an unsound horse? I certainly think he is, and particularly so if the splint has existed for any considerable time. I am of the opinion that there are very few horses of six or seven years old which have not got splint. It may not be that they have enlargements there, but they have got a transformation of the tissue which connects the small metacarpal bones to the large bones. And that absolutely is a splint. But if you condemn every horse with a splint of that description you will have very few sound ones.

Does it give rise to lameness? Certainly it does, in very many instances, and it more frequently gives rise to lameness in the early stage of the malady than in the later stage, simply because associated with the early

stage of splint you have an inflamed condition of the periosteum.

I will now pass from that to the treatment, because I want to leave as much ground as I can for you to contest. We have recourse to fixing, to blistering, and to periosteotomy, as well as some other lines of treatment. But I will first allude to those I have mentioned. We have got a line of treatment which we call subcutaneous periosteotomy. This consists of making an opening in the skin, passing in a periosteotomy knife, cutting down upon the periosteum and dividing it, an operation I have performed hundreds of times, and with very good results. The late Mr. John Roalfe Cox put an idea into my head which is useful, namely, that instead of going to the trouble of making two openings in the skin when you pass in a seton needle, separating the skin from the surface, and then pass in the periosteotomy knife and cutting down, he suggested that the knife should be at once placed on the surface of the skin and cut down on to the so-called splint. Now by that means you save a great deal of trouble, and you avoid a great deal of blemish.

Burning down on the splint with a pointed iron is another way of producing the same effect; you destroy the periosteum and so liberate the part. Firing—and by that I mean line firing—for splint is only required in very bad cases, that is to say where the enlargement is very considerable. Then line-firing becomes necessary to bring about bondage on the external surface of the enlargement.

There is another remark I want to make, and that is as to diagnosing lameness from splint. After that I will leave you to deal with me. We have many cases of lameness in the fore limb. We have learned something about navicular disease to-night. In a case of navicular disease the animal usually goes better the further he goes. In a case of splint lameness, however, he usually goes worse the further he goes. There is a peculiar action in splint lameness which, when the eye has been educated to it, is easily recognised. It is that when the animal puts his foot down he puts it outwards to get in on the inner surface of the limb. Then by manipulation you find out where there is an amount of tenderness on pressure to the inner surface of the limb, with an amount of heat. And, let me tell you, you must not use the inside of your hand when you want to determine this. The inner side of your hand will frequently deceive you. It is the back of the hand you should use when you are trying to determine the sensible temperature of a surface.

I have left out a great deal, Mr. President, but I hope I have said sufficient to create a discussion, and I shall be delighted if it is a warm one.

Discussion.

Mr. W. Hunting said that an extremely interesting point which Prof. Pritchard touched upon was as to why splint appeared on the inner side of the leg more than on the outer. He thought the Professor rather pinned himself to the centre of gravity being more on the inner than on the outer side; that there was more weight, jar, and pressure on the inner side of the leg than on the outer. He did not accept that. The same explanation had been offered for corn, whereas one knew it was due to the shoeing. Again, if there were more weight upon the inside of the leg than upon the outside, one would expect that all shoes would be worn more on the inside of the limb than on the outer. The opposite, however, was true. He agreed it was rather a reflection upon Nature to say that she could not build a machine with four legs or with two legs so nicely that there should be perfectly even pressure both upon the inside and the outside. A joiner could make a chair with four legs in which each leg and each part of the leg should take its proper share of the pressure, and he fully believed that Nature was capable of the same thing. Besides, there was the fetlock joint, the coronary joint, and the hoof and matters would soon adjust themselves that there would be evenly distributed pressure on the horse's foot. He remembered that one splint bone was more often attached firmly to the cannon bone than the other, and he believed also that one splint bone had knee bone all to itself, whereas the other splint bone shared the bearing and pressure of two bones above. It seemed to him that those arrangements might have something to do with the appearance of splint on the inner instead of the outer side.

He agreed that heredity played a very important part in the causation of splint, and that was confirmed by the fact that splints arose, reached their height, and even disappeared without causing a day's lameness. Moreover, an experience which a friend of his had in the Argentine seemed to settle the point. The natural Argentine horse had no splint, and it was only since the introduction there of the thoroughbred horse that splint had been noticed. A native would give £5 more for a horse with a splint than for one without. It was not that he valued the splint at £5, but the presence of the splint showed that he had English blood. In our own breeds it was the harness horse which suffered most from splint, and that he believed to be due to hereditary transmission.

Prof. Pritchard expressed the opinion that splint meant unsoundness. In a case which Justice Lopez tried, he was said to have ventured the remark that if he had to decide the point he would say that splint was not unsoundness. If the Judge did say so, it was a remark made in ignorance, because it certainly was unsoundness and was always liable, especially in a young horse, to cause lameness. One was apt to undervalue splint, which was a small thing, and a day or two's rest would often make the animal go sound. Still, sometimes it would make the horse lame on and off for months.

With regard to the diagnosis of splint lameness, Prof. Pritchard was very observant, and he (Mr. Hunting) hesitated to disagree with anything he said, but he had never been able to detect any peculiarity of action which he could call splint lameness. Some animals circumducted the leg, so that one might think they had shoulder lameness; others pointed a foot, while others stood perfectly square in the stable. He did not think there was anything which would enable him to detect a splint from the action unless he could also feel it. But there was something about the action which he thought was diagnostic. If a horse walked sound but when trotted became nodding lame, if it were a five or six year old, it would be nearly safe to say it had splint lameness.

Mr. Porch asked whether Prof. Pritchard had noticed that horses with straight hind legs were more subject to splint behind. In his experience horses with a straight hock were more subject to splint than those with a natural conformation. Also, were not horses with turned in or "pigeon" toes more liable to splint outside because of the tendency to throw the weight on to the outer side of the limb. He agreed that splint was an unsoundness, although thousands of horses were working soundly with splint. Yet there were many animals in which splint was a source of constant trouble, and one never knew when it was going to cause lameness. One thing to which Prof. Pritchard did not allude was the splint which one was unable to detect by manipulation. He was once asked to go over to a large sack of bones and see how many he could find without splints. He found very few without. Many of them had peculiar splints on the metacarpal bones, which he believed could not be discovered during life. He thought they would even be a greater source of trouble than an inside or outside splint. He asked whether point firing, sufficiently

deep to reach the periosteum, was not likely to produce a serious blemish in a valuable horse. He had not much experience of periosteotomy, but it was likely to produce only a little blemish if successful. He had not noticed the peculiar action which Prof. Pritchard mentioned in splint lameness, in fact he was dubious about there being any specific action by which one could diagnose splint lameness. He knew many veterinary surgeons accepted the opinion which Mr. Hunting had given, namely, that a horse walked practically sound, but trotted very lame. He believed it did occur in many cases, but he had seen many in which it did not. There were other kinds of lameness in which the cause was not splint, but in which the horse walked comparatively soundly and trotted very lame. Professor Pritchard said a horse when lame from splint would put his leg outwards. If a horse were lame from splint on the inner side and he put his leg out, would there not be a tendency to throw more weight on the inside of the leg? He thought a horse with inside splint, which was causing lameness, would be more inclined to step on the outside of the foot to prevent throwing the weight on the inner side of the leg. Mr. Hunting's statement as to what his friend saw in the Argentine did not convince him. Since the introduction of the English horse into the Argentine the horse had been doing more work in that country. Formerly they did very little work, and were shot for their skins; when the English thoroughbred was introduced, horses were bred for work, and work probably had much to do with the occurrence of splint. He agreed that the light horse was more subject to splint than the heavy one, and he would go further and say that heavy horses more commonly had sprained tendons than did harness horses, but this did not prove that sprained tendons were hereditary.

Mr. SAMSON said he could confirm Mr. Porch's remark that splint in the Argentine horse was not due to the introduction of English blood. About 23 years ago he had one of the first Argentines ever brought to England. It was very wild and could only be caught with a lasso. It had no English blood, and had not been at work more than three months before he threw two beautiful splints, and was lame for 18 months. He was fired and punctured in the ordinary way, periosteotomy was performed, and he was blistered some twenty times. He, Mr. Samson, would have given him away to anybody who would take him. Argentine horses did not have splints not only because they did little work, but because what work they did was on grass. They did not trot, but moved with a kind of amble; and a man going up country 100 miles would perhaps use ten animals on the journey. An English horse whose work was on turf would seldom have splint. The occurrence of splint in horses working on hard macadamised roads was six times as frequent as among hunters. He asked whether less blemish was produced by cutting down on the splint with a direct cut, than by cutting below and passing the instrument up. He (Mr. Samson) liked to cut two or three inches below; only one opening was required, and if the instrument were got well over the bone there was no blemish. It was a very clever man who could lay down any fixed rule for treating splint. Some did not require treatment, the animal simply needed putting out to grass and forgetting for a few months. He had had horses which he felt certain were lame through splint, but he could not feel it, but there was a certain amount of tenderness on pressure at the spot. In such a case periosteotomy would do no good at all. The treatment was by hot bandages for about a fortnight, followed by cold lotions. His experience was that 20 per cent. of horses at five or six years of age which had been at work had some form of splint, and if every such horse were called unsound there would be very few horses to work. That was why it was best, in examining a horse, to see one's client rather than write a direct certificate as to soundness or otherwise, and explain the nature of the splint. The age of the horse must be considered. If it were eight or nine years old, and the splint was cold and hard, it would not do any harm, even though it were as big as your fist.

Mr. PERRYMAN thought concussion, particularly on hard town roads, was a great cause of splint, but he was glad to hear Prof. Pritchard refer to the striking of the leg, as he thought many splints were produced by the animal knocking himself. He had been anxious to hear whether any form of protection would be recommended. For a long time, with young horses, especially those having a splint which did not make them particularly, or only occasionally lame, he advised a leather boot all down the leg, fastened on the outside with a lace. It was surprising how frequently a horse struck the leg when people did not expect it. He would like to hear what Prof. Pritchard thought of such boots for young horses. With regard to soundness with splint, it was necessary to use discretion in examining animals, because as Mr. Samson had said, the majority of horses at 6 and 7 years of age would be fonnd to have splint, and he did not think one could give a wholesale condemnation of splint. If a young animal, of 4 or 5 years of age had splint one was justified in condemning him, but afterwards the point was whether the horse was able to do the work required. He had been particularly struck with what Professor Pritchard said about outside splint, and that it was not so common as the inside. He was also glad to hear him say he thought it was often due to injury. Was it the Professor's experience that outside splint was more difficult to treat than inside? There were, of course, many forms of treatment, most of which he had tried. Whenever time was important, as it mostly was in London, he found that puncturing was best, with a needle point, his iron having a couple of prongs to it. He thought some art was required, so as to get the iron just to the periosteum, and not going into the bone. If the iron were driven well home, he found too much inflammation was set up in the bone itself. After feeling the iron on the periosteum, it ought to be withdrawn again quickly. He used a small point, and that left but little blemish; he would like to know the kind advocated by Prof. Pritchard. He agreed as to the large proportion of animals with splint, and he also had paid instructive and valuable visits to Harrison and Barber's bone yard. Very few metacarpal bones would be found without splint, particularly behind the knee. Some of the bones illustrated how difficult it would be to diagnose certain forms of lameness. In some forms of splint close to the check ligament, the check ligament appeared to be strained. He would be glad to know whether the local periostitis was due to straining of the check ligament, or whether it was inflammation of the periosteum which set up the thickening of the check ligament.

Mr. BUTTERS thought there was sometimes rheumatism about some forms of splint. He would be glad to know whether, when seeing a horse limp, it was possible to tell whether it was due to rheumatism. He had very much enjoyed Prof. Pritchard's address.

Prof. PRITCHARD, in reply, said he had not time to enter into the anatomy of the subject, otherwise he would have said something about the inner splint bone not receiving the whole weight of one of the knee bones. On the outer side of the knee of the horse was a bone having four sides to it, which, in his day, was called the trapezium. But a new generation had come forward and called it the pisiform. Trapezium meant thumb-like, having four sides to it, whereas pisiform meant pea-shaped. The bone on the outer side of the knee was about as much like a pea as his head was like a boot. Mr. Hunting had not agreed with him as to a special action in cases of splint. He, Prof. Pritchard, did not intend it as diagnostic of splint, but he regarded it as a

useful aid. In reply to Mr. Porch's remarks as to straight hind legs, he did not follow him, and did not see how a straight leg could affect it. No doubt "pigeon-toed" horses were liable to strike the inner surface of their leg, and that would be a contributory cause of splint. In reply to Mr. Samson. the late Mr. Cox's operation did not leave the blemish mentioned. He, Prof. Pritchard, used to perform the ordinary subcutaneous periosteotomy operation, but he found less blemish was left after Cox's operation. With regard to a boot, a lady—whose name he had forgotten—brought out and patented the best boot he had ever seen. The name "check ligament" had also been introduced, but he preferred the name tendo-subcarpal. He believed the inflammation spread from the bone to the ligament, and not from the ligament to the bone; it was a very common affection, and one of the worst forms of splint. He used the ordinary point-firing irons, but used a sharp point. He did not hesitate to burn on to the bone, because he thought the material thrown out on the outer surface of the bone was thrown not from the bone itself, but from the periosteum covering it. He believed the operation succeeded by destroying the inflammation in the bone membrane. He was quite of the opinion that rheumatism was a cause of splint lameness, and that it was only a symptom of what was going on in the system generally. He believed also, with the late Prof. Spooner, that navicular disease was next door to rheumatism.

In conclusion, he thanked the Society for the reception his discourse had enjoyed, and the speakers for contributing to the discussion.

Mr. BUTTERS proposed a hearty vote of thanks to Prof. Pritchard for his address and his specimens, and to Mr. Routledge, who had also shown specimens. This was carried by acclamation.

Prof. PRITCHARD, in acknowledging the thanks, said he would be pleased to do a similar service on a future occasion if the Secretary would let him know.

The PRESIDENT announced that the Society had decided to entertain the Veterinary Delegates at the forthcoming Congress of the Royal Institute of Public Health to a dinner which was to be held on July 21st, and for that purpose, the Council had granted a donation of 20 guineas. It was thought desirable in order to ensure success that a guarantee fund should be opened; and he asked members to kindly send their names to the Secretary with the guarantee, and hoped that they would all turn up at the dinner; and mentioned that ladies were specially invited.

A vote of thanks to the President concluded the meeting.

HUGH A. MACCORMACK, *Hon. Sec.*

ON THE VIRULENCE OF BACILLUS MALLEI OBTAINED FROM HUMAN SOURCES.

BY WILLIAM BULLOCH AND F. W. TWORT, LONDON.

Glanders in man is generally believed to be uncommon although no doubt this belief is partially due to the protean characters which the disease manifests clinically and which render it difficult of diagnosis. Years ago Virchow (1) wrote: "Es geschieht, das Leute mit dieser Affektion lange Zeit behandelt werden, ohne das man von der gefährlichen Natur ihrer Krankheit eine Ahnung hat." During the years that the bacteriological recognition of Bacillus mallei has been rendered possible, cases have been recorded with ever increasing frequence. In the majority recourse has been had to the inoculation of the male guinea-pig in which, as was pointed out especially by Strans, a well marked orchitis developes. The inoculation material has been either the bacillus isolated from the glanders lesions or the pus and exudate from these lesions directly, as the finding of the bacillus in the exudate is often associated with difficulty. In regard to the development of the testicular disease in the guinea-pig reports are fairly uniform. Without mentioning the question of dosage required Straus (2) says that after intraperitoneal inoculation the swelling of the testicle is very apparent in 2—3 days. "Au 8e ou 10e jour elle a acquis des proportions très considérable, l'animal succombe beaucoup plus rapidement, en général au bout de douze a quinze jours parfois en quatre a huit jours." Nocard et Leclainche (6) express themselves in exactly similar strain: "L'animal succombe généralement en 12—15 jours, parfois en 4—8 jours."

Prettner (4) without mentioning the animal source of the culture states that 1 g of a bouillon culture (obtained from an agar culture of the first generation) causes orchitis within 24 hours, the swelling reaching its maximum in 3 days after the inoculation and the guinea-pigs never survive till the 8th day, the majority dying on the 5th or 6th day.

Zieler (5) who experimented with the pus of two human cases of glanders obtained at first inconstant results as far as concerned the production of a typical "Strauss reaction" but with pure cultures the result was unequivocal and even after prolonged antiseptic treatment of the glanders lesions no attenuation of the virulence of the bacillus could be observed. With cultures from his second case—the dose used is not stated—he obtained typical orchitis in 24 hours and death in 3—6 days.

During the last three years we have examined six cases of glanders at the London Hospital, two being acute in course and four chronic. In each case the diagnosis was made by bacteriological examination, the typical exudate of the tunica vaginalis being obtained from the injection of pure cultures isolated from the glanders lesions. In each case we have been struck by the rapidly fatal disease induced in the guinea-pig. The animals used weighed from 400—700 g death occurring on the third day. From the first culture obtained from each human case one loopful was suspended in bouillon and injected intraperitoneally. The loop contained about 1 mg. The original cultures were obtained from the human cases on surfaces of potato and as soon as the appearance of the yellowish colony suggested B. mallei a minute loopful was obtained by touching the colony and this was the material injected. The remaining part of the colony was used for the microscopic examination, (staining, etc.)

Within 24—36 hours the testicles were found to be profoundly swollen, red and apparently tender, the swelling increasing up till death which, as stated above, occurred in all the cases within three days. The post-mortem examination revealed an extensive typical glanders exudate in the tunica vaginalis and an exudate in the peritoneum. From the testicular lesion as well as from the peritoneum typical B. mallei existed in pure culture. From the frequence with which we have obtained this rapid effect it has occurred to us that the bacillus is probably much more virulent from human than from equine sources. We subjoin a very short summary of the actual cases and do not propose to deal with glanders in man *in extenso* as that has been recently done very completely by Zieler (l. c.)

ACUTE GLANDERS.

Case 1. H. B. 51. Tram conductor. Ill three weeks. Illness began with shivering and fever. Pustules appeared on arms, legs, and forehead, erythematous rash. High temperature throughout the disease. Death two days after admission into the hospital.

P. M. Farcy nodules in skin, acute glanders nodules diffused throughout the lung. Primary source of infection not determined.

From a pustule on arm during life B. mallei isolated on potato. From first culture one loopful inoculated into male

guinea-pig. Typical Straus' reaction in 24 hours. Death on 3rd day.

Case 2. G. B. Carman, illness about three weeks, admitted with pyrexia and multiple abscesses.

Pus from abscesses contained bacilli like B. mallei; inoculation on potato gave a pure growth of B. mallei. One loopful inoculated into guinea-pig, severe orchitis by the 48th hour. Death on 3rd day.

CHRONIC CASES.

Case 3. A. F. Abscesses of thigh lasting for months. From pus B. mallei obtained in pure culture. One loopful from first potato culture killed guinea-pig with typical glanders in 48 hours.

Case 4. A. D. Aged 31. Occupation warehouseman, admitted suffering from chronic pyæmia, multiple abscesses all over body. Bacillus isolated from an abscess on the arm. Inoculation gave positive result and death of the guinea-pig on 3rd day.

Case 5. F. R. Aged 23. Carman, history of illness of 10 months, began after attending a horse suffering from "inflammation of the lungs." Illness began with abscess on inner side of right foot. Four months later abscess of testicle which burst through the scrotum. Large abscess of left thigh. On admission a large raised infiltrated area on left side of face extending from inner canthus to left ala nasi. A sinus existed at the lower end. Sinus scraped out and the mixture of pus and blood subjected to examination. B. mallei isolated, one loopful injected into guinea-pig. Death with typical appearances on the 3rd day. Testicle severely affected.

Case 6. No information could be obtained about this case except that it was one of chronic pyæmia in a man whose occupation was a carman. The pus from one of the abscesses was sent for examination. Pure culture of B. mallei isolated. Inoculation of first culture obtained killed a large male guinea-pig in three days with a dose of one loopful.

We add a seventh case, although the exact nature of the disease is doubtful, and it possibly comes into the category of pseudo-glanders. It was that of a woman suffering from an abscess the character of the pus of which led to the bacteriological examination for Bacillus mallei. On potato a culture was obtained of what appeared to be typical Bacillus mallei. It was a non-motile, Gram negative rod, giving greyish colonies on agar and yellowish moist colonies on potato, ultimately turning to the typical chocolate brown, said to be characteristic of Bacillus mallei. Seven different inoculations were performed on male guinea-pigs. Four of these were entirely negative. In the other three a rapidly fatal infection was produced, death occurring in 24 hours. No glanders lesions were found although the bacillus, which was present in large quantities, presented like the primary culture all the typical appearances, morphologically and culturally, of the Bacillus mallei.

Personal.

At the Sheffield Dog Show, Mrs. Fletcher judged the two children's classes, which excited much interest, the large ring being crowded four or five deep. The lady acquitted herself creditably, for is she not the wife of Mr. T. C. Fletcher, M.R.C.V.S., one of the vets. of the show, who, although junior to his father in their extensive practice in Sheffield has, like the writer, "gone grey in the service." He is the patentee of a "dog catcher" and "pill administerer," which are coming into general use.

Messrs. T. Chesterman, A. Glover, A. E. Gostling, and F. Hobday acted as judges, and Messrs. F. L. Carter, D. Gregory, as Hon. Veterinary Inspectors at the Hackney and Stoke Newington Horse and Cart Parade.

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended June 24		16	21	..	..	29	34	..	..		13	99
Corresponding week in	1904 ..	12	18	..	..	30	43	..	..	5	34	88
	1903 ..	17	26	..	..	31	54	..	..	8	57	353
	1902	12	13	..	..	24	30	..	..	4	33	150
Total for 25 weeks, 1905		520	755	..	..	595	1047	..	..	643	390	1879
Corresponding period in	1904 ..	516	807	..	..	722	1322	..	..	1055	752	3695
	1903 ..	416	649	..	..	655	1078	..	..	1154	840	3956
	1902 ..	370	612	1	120	538	993	12	2	1080	836	3984

Board of Agriculture and Fisheries, June 27, 1905.

IRELAND. Week ended June 17		..	..	..	..	1	4	..	..	4	1	25
Corresponding Week in	1904 ..	..	..	..	..	..	1	..	..	2	10	169
	1903 ..	..	..	..	..	..	..	..	..	4	4	77
	1902 ..	..	..	..	..	..	..	..	..	1	5	81
Total for 24 weeks, 1905		2	2	..	..	11	32	..	..	220	3	447
Corresponding period in	1904 ..	2	2	..	..	4	20	..	..	361	65	1585
	1903 ..	1	2	..	..	1	2	..	..	387	50	1379
	1902 ..	..	..	..	..	4	19	..	..	428	83	1593

Epizootic Lymphangitis, Week ending Jan. 14, 2 cases; Feb. 25, 2; March 25, 10: May 27, 1; June 10, 1: June 17, 4.

Department of Agriculture and Technical Instruction for Ireland, (Castle Street), Dublin, June 22, 1905.

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection.

Annual Dinner of the A.V.S.

The annual dinner of the Army Veterinary Services took place at the Whitehall Rooms, Hotel Métropole, on the 23rd instant.

The following officers were present: Major General H. Thomson, C.B. (in the Chair). Colonels F. Duck, C.B., J. A. Nunn, C.I.E., D.S.O., A. E. Queripel, W. B. Walters, C.B. Lieut.-Colonels, L. J. Blenkinsop, D.S.O., E. H. Hazelton, J. A. Oliphant, J. Reilly, R. Rowe, C. Rutherford, C.M.G. Majors: E. R. C. Butler, J. T. Dibben, G. C. O. Fowler, F. Joslen, A. W. Mason, J. Moore, A. C. Newsom, R. W. Raymond, F. C. Stratton, E. Taylor. Captains: R. L. Cranford, A. England, J. J. Griffith, P. J. Harris, C. B. M. Harris, D.S.O., E. E. Martin, J. A. B. MacGowan, W. A. Pallin, F. H. Shore, W. J. Tatam, A. Todd, G. M. Williams, W. H. Wright. Lieutenants: J. A. Bosley, T. E. Burridge, H. C. Dibben, A. Edgar, R. C. Fenton, H. J. Holness, J. T. M. Hughes, B. H. Lane, A. S. Lawrie, K. Mc. L. McKenzie, A. J. Thompson, G. W. Tyson, H. M. Williams.

Army Veterinary Corps.

The last formed unit in the British Army is the Army Veterinary Corps, the nucleus of which was formed in Aldershot some months ago, and which is now gradually growing into considerable dimensions. The headquarters of the corps is in the Cavalry Barracks, where the first Station Veterinary Hospital has been formed by taking over the cavalry sick lines. Major F. C. Straton is the officer in command of the corps, which exists at present only at Aldershot and Woolwich, but it is expected that when the project which led to the formation of the corps is properly developed, there will be detachments of the corps at all the large garrisons, such as Salisbury Plain, Shorncliffe, Woolwich, the Curragh, etc., each with a Station Veterinary Hospital to take charge of The corps has been formed with the idea of rendering veterinary service on the same principles as the Royal Army Medical Corps renders medical service, by which it is hoped that greater efficiency and economy in the treatment of horses will result. The Aldershot detachment of the corps is not yet at full strength, which is expected to be fixed at about one hundred of all ranks. The non-commissioned officers and men are all transferred from other corps, each having a special qualification, so that all are expert in their own particular work. A warrant officer will shortly be appointed to the Corps at Aldershot, and another at Woolwich, at an early date.

CORRESPONDENCE.

BOARD OF AGRICULTURE AND VETERINARY INSPECTORS.

Sir,

I should feel much obliged if you could give me some information as to the position of town or borough veterinary inspectors under the Contagious Diseases of Animals Act, particularly in regard to what is customarily recognised as their work.

As you are aware the Board of Agriculture are insistently promoting the appointment of Chief Constables as Inspectors and ourselves as Veterinary Inspectors, apparently in the same *rôle* for borough work as for county districts, in which, in my opinion, we are far too much ousted by the police, and apparently our duties consist of diagnosis and "doing a guy," of which the first is more satisfactory than the last.

County constabularly may have some small knowledge of animal diseases, but town constables (including chief) are grossly ignorant, and whatever justification there may be for their use in county work does not seem to apply to borough needs.

Probably, however, there is no need for me to enlarge on the topic as you are perfectly familiar with it, but I should feel much obliged if you could inform me what is the custom in large towns and boroughs. I am sorry to say in this district, without consulting veterinary opinion, the Chief Constable has been appointed Inspector, and though I have been unofficially informed I have been appointed veterinary inspector, yet it is no improvement on the old position. The Council opinion was not unanimous in regard to the appointment of inspector, but it was skilfully represented as 33 (constables etc.) on the "*qui vive*" instead of one, and the appointment was passed.

I am afraid it would be extremely difficult to get revocation of the appointment, and yet if one tries to do what one can in supervision I am certain of the opposition of Inspectors of the Board of Agriculture.

We had held such appointments as Inspector of Cattle for Tuberculosis, and of swine for Swine Fever, so that there was absolutely no scope for another inspector, and though the remuneration was small yet the matter was in veterinary hands, and we thought we were maintaining the profession in its proper place, and would have continued to do so barring this interference of the Board of Agriculture.

These gentlemen no doubt will suggest that the Chief Constable be remunerated by knocking off our swine fever inspection (quarterly) and perhaps belittle the value of the other.

It seems to me that the duties of the Veterinary Inspector are very ambiguous in the Handbook, though the Board of Agriculture seem to have very clear ideas on the matter.

I presume the matter resolves itself, as so many more do, into doing the best you can, though it would largely strengthen my hands if I knew the veterinary inspectors in borough districts were usually accorded more power than those in county or country districts.

Trusting I am not too wearisome with this, yours sincerely,

Hugh R. Hogben.

Folkestone, June 19.

ANOTHER SAD CASE.

Sir,

May I ask you for a little of your valuable space to call the attention of your readers to the fact that a subscription is being raised for the benefit of an old teacher, well known to all the members of the veterinary profession, Prof. James Bayne, who was at the Royal Veterinary College, London, for over 30 years, first as assistant to the late Prof. Tuson, and afterwards as Professor of Chemistry and Toxicology. He has since leaving that Institution in 1903 met with the most terrible losses of fortune. He has been obliged, through no fault of his own, to part with his laboratory, and is therefore unable to carry on his business as a consulting chemist and public analyst.

Some of his old friends and pupils have already subscribed small sums to help his immediate needs, but what we wish to do is to raise a sufficient amount of money to obtain another laboratory for him and to give him a fresh start. We feel sure that if this is done all his old clients would rally round him again and doubtless introduce many new ones.

Thanking you in anticipating for inserting this, I remain, yours faithfully,

Hubert E. Lindley, *Hon. Sec.*

Observations on the Filarial Embryos found in the general circulation of the Equidæ and Bovidæ, and their probable pathological significance. By Alfred Lingard, M.B., M.S., D.P.H., M.R.C.S.E., F. Univ. Bombay, Imperial Bacteriologist to Govt. of India. Fasciculus I. Bursati (Part I): six charts, nine text illustrations, and twelve plates. Ryl. 8vo., paper covers, 2/6 net. Adlard & Son, Bartholomew Close, E.C.

Communications and Papers received.—Messrs. J. R. Hodgkins, A. H. Towne, J. Gregg, E. Wallis Hoare, G. Neumann, G.M.

"*Our Dogs*," "*The Military Mail.*"